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Attachment 2

Discussion of Underwater Operations by  
Mr. Roberto Frassetto Presented before  
the National Research Council Symposium  
on Underwater Swimmers.

NOTE: Mr. Roberto Frassetto, as a lieutenant in the Italian Navy was one of the few survivors of an attack against the British at Malta in 1941. Seriously injured when he pressed home his explosive motor boat attack on a bridge, Mr. Frassetto was taken prisoner by the Royal Navy. After several years in prisoner of war hospitals Mr. Frassetto served as an advisor to the British. He is now employed as a consultant to the Office of Naval Research and is stationed with Underwater Demolition Unit TWO at Little Creek, Virginia.

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The Warfare by underwater men can be conceived differently by various nations, this warfare is mostly in close relation with the aquatic and seaman-like nature of the peoples of each nation, and with the distinct endowments of personal initiative and individuality. This may be the reason why the Germans did not consider the importance of the control of the sea and never succeeded in the organization of UDT groups. In this respect we could entertain a doubt that the Russian people maybe well versed in this field.

In addition the UDT warfare in every nation depends to a large degree on the particular problems which their navies may face in regards to geographical locations and weak points of seas, harbors, beaches and rivers of their potential enemies. Regardless of the conception, this warfare has been giving high dividends to every nation that used it. Italy may be considered the nation that achieved the most out of its UDT's during World War II.

The domination of the Mediterranean was of vital importance for Britain, Italy and France. The combined French and British Navies were far stronger than the Italian Navy. Insufficient oil (6 million gals a month for the whole Navy), obsolete and few airplanes, no radar etc., seriously handicapped the Italian Navy. Complete self sacrifice, individual gallantry, high morale and the elevated sense of duty were the only riches of that Navy.

Admiral Cavagnari, Chief, of Naval Operation, on April 9, 1940 wrote a memorandum to the Government saying, "It is not justified to declare a war with the perspective of being forced to a defensive plan also on the sea."

Well aware of the situation of a few patriotic and idealistic officers formed a kind of secret club and enthusiastically dreamed up a plan with which few determined men could completely change the outcome of a war by striking at the core of the enemy sea power in all of the enemy harbors with simultaneous surprise attacks by assault crafts on the very first days of war. It was not a fantastic dream or just words. They built the assault crafts with scraps taken out of salvage.

One was a fast explosive motor boat to be launched 500 feet from the target; the other was a two man torpedo with a detachable war head to be fastened to the bilge keel of warships, and launched near harbor entrances by mother submarines.

After all the idea was not new. In World War I on October 31, 1918 a successful action had been carried by two Italians which penetrated an Austrian harbor sinking the battleship Viribus Unitis.

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Crafts and plans were submitted to the Navy Department in all secrecy. The Department did not say no but did not say yes. The aid and the faith of the Navy Ministry was likewise very limited due to the initial restriction which Mussolini had imposed on strategic planning, since, in his opinion, the war would have lasted only three months.

So the Navy Assault Group was at its experimental stage in June 1940, equipped with hand-made crafts and inadequate equipment. The group was composed of about 20 volunteers, officers and enlisted men who had been selected personally by the organizer of the Unit on the basis of character and determination.

The men, once selected, had to disappear in the anonymous, wear civilian clothes, live secluded in well concealed places along deserted shores near La Spezia, and jealously keep the secret of their mission. One essential factor for the success of UDT actions is surprise. Surprise can be obtained only by keeping secret techniques, plans and preparation. Publicity is fatal to UDT's. The great enthusiasm and the strong will power of the men, which had to train in primitive conditions, facing great difficulties, persevering after many tragic failures of equipment and plans, also at the cost of human lives, was rewarded, only after the first success in March 1941, when a 10,000 ton British cruiser, the York, and three more ships were sunk in Suda Bay, Candia.

By that time it was apparent that the war would be much longer than 3 months. The Navy Department was aware of the possibilities of the, exigous and nearly forgotten in the silence, assault group. Funds and help were finally granted and were welcomed by the few men ready now to succeed in one of the most daring and amazing naval actions in history. The great opportunity of the first days of war had been missed. Premises and plans had to be adapted to the new situation, and the will to operate paid dividends.

In approximately two years of war a total of 265,352 tons of British and Russian ships have been sunk or seriously damaged by Italians UDT's. 4 warships and 27 other ships were sunk in various harbors in the Mediterranean in 12 successful actions, 7 failures, by about 100 UDTs of which approximately 20% died, 50% were taken prisoner of war. 17 explosive motorboats, twenty of the 2-man torpedo boats and about 100 limpets of different types were the cost of material for the sinking of 31 ships.

This unbeatable balance proved how a well trained UDT group, with its precise operating method, its severe training and its high morale and physical endowment, was able to reach the objective accurately, despite the ever increasing defenses and alertness of the adversary. It is clear that the results are greatly out of proportion to the means employed.

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The equipment is extremely inexpensive compared with the results achieved, also compared with the greatly increased cost of the other means which could have been taken to achieve the same result.

Techniques, equipment and ideas all through the war, were varied to fit the ever changing situations while the enemy was getting harder to be reached in his harbors. The assault group was no more a mysterious secret to the British.

The surface craft was soon considered obsolete and useless, the breathing apparatus was redesigned in accordance with the suggestions of the senior UDTs and the two man torpedo was redesigned for more ruggedness and precision, it was improved for range and operating depth and the mother submarine was brought to a high degree of efficiency by the most skilled skippers in the Navy.

When the approach to harbors became critical for the mother submarine, the swimmer Limpetear was created and launched from land, generally from neutral harbors, while a firing delay limpet was used to sink the ship out in the sea rather than inside the neutral harbor.

When the Mediterranean British harbors became nearly impenetrable, the decision was made to strike enemy ships in other seas where the surprise would still be in the assaulters favor. The offensive was to be carried to the coast of North and South America and South Africa as well as in neutral harbors of Spain and Portugal. Lisbon offered several promising occasions of success.

A little 12 ton 2 man submarine, the CA, was made ready for crossing the ocean to New York harbor, on the deck of a big oceanic submarine stationed at Bordeaux. A successful trial was conducted at sea. The mother submarine "Leonardo Da Vinci" submerged and released the CA underwater, the CA came to the surface splashing gaily, two UDTs went aboard, turned it around, and dove again to the deck of the mother submarine for the return home. But the war was over before the little CA could prove his menacing possibilities.

Another midget submarine was also been experimented with. It would carry 5 UDTs with two tons of limpets and mines. This craft was to be carried in a mother submarine.

Other ideas were also realized: A self supporting motor column was sent in Crimea with fast motorboats and midget submarines to sink Russian ships on the Black sea. A 15,000 ton Russian ship and 2 submarines were sunk there. Another Guto column was organized in Africa, following the troops advancing along the shore and a British destroyer of the class Jarvis was sunk, while trying to bombard the coast, by a fast motorboat.

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Camouflaged fishing boats of 300 tons began to cross the Mediterranean carrying small fast torpedo boats to be launched against ships on the sea.

Parachuted swimmers limpeteers were being trained for further employments but developments started too near the end of the war, to give results and prove their usefulness. They are worth mentioning as Potential employment or danger in a future war.

At the same time a group of men, trained at our shallow water school, were employed on every ship for salvage work and defense against British limpeteers which were trying now to emulate our actions after they had learned their lessons.

UDT's were also used successfully in harbor clearance of ships, mines and recovering secret documents from sunken enemy ships. I want to mention the case of a brilliant underwater survey made on the wreck of the British destroyer "Mohawk" which sank on the Kerkenak sand bank near Tunisia. Disregarding the enemy air action and offense, Italian UDTs immediately succeed in finding a complete set of secret archive which permitted deciphering all British codes and follow the Navy movement on the sea for several weeks.

Immediately after the war, while other military forces were going home, the UDTs had a big job to accomplish. The tough men were again underwater, in muddy, streamy waters of the harbors to clear mines and obstacles. I personally directed some of these operations on the Adriatic sea, from Ancona to Venice and Grado, clearing in few months several dangerous inland canals and harbors for allied and Italian merchant marine traffic.

Several big German magnetic mines and bombs were recovered. Every foot of muddy shallow water was inspected and cleared. In doing this job the UDTs were walking in groups, underwater, searching in the dark with their hands and feet. No electronic gear was available to us.

In this general review of the achievements of the Italian UDTs during World War II, I mentioned the premises and the results as well as the nature of the gallant underwater men who work in silence and unseen; but the results were obtained in spirit of unsurmountable situations. Hundreds of difficulties were surmounted several times only with a complete self control. Some attacks failed often with success in sight, due to equipment failure and subsequent exhaustion of the man.

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The prototype of a two man torpedo, was called "Maiale" that means "pig". On a day of despair and no other name could have been more proper for a salvage constructed craft. The suits tore, the explosions injured, the oxygen poisoned and so on, but the men never gave up. Some times it was better to die trying than fail to reach the target. The only reward for the UDTs was the success of the action or the knowledge they had done all that was humanly possible. Honors and medals were awarded only after the war because the secret imposed no publicity during the war. There was no money reward for these men who were proud to be treated like other military men and give much more than the average man to his

The fulfillment of exceptional duty was the great thing that filled their heart.

I want to emphasize now that the underwater world may appear safe, attractive, and fascinating in peaceful warm and clear waters filled with curious fishes and marvelous landscapes but in war operation the underwater world and the sea surface are a constant danger and are very ungrateful to human beings. The water is murky, cold, three dimensional, dark like ink at night; the sense of direction and the mental clearness of the average man is easily lost. The environment does not forgive a careless fearful or nervous man or a failure of equipment.

Crafts, equipment, comfort and instruments are vital indispensable means of the UDTs to survive. They must be rugged and of high precision to permit such surviving.

As you sit comfortably in a warm safe room you must remember these things and think about the men who are going to use your equipment. You have in your hands the responsibility for the lives of these men.

The American UDT Officers and men are ready to be highly efficient and very successful if you will give them the opportunity to fulfill their task and develop their warfare in a field which can return a dividend to the U.S.A. in a future possible war. Let me also suggest that undue publicity must be forbidden as of now.

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